

5. (amended) A method as in claim 4, wherein forming a hole from another surface comprises forming the hole from a surface that is opposite to the surface the electrode was formed on.

7. (amended) A method for manufacturing a semiconductor device according to claim 2, wherein, after the hole is formed, a metal film is formed on the electrode through the hole.

8. (amended) A method for manufacturing a semiconductor device according to claim 3, wherein, after the hole is formed, a metal film is formed on the first layer of the electrode so that the first layer of the electrode is positioned between the metal film and the second layer of the electrode.

23. (amended) A method for forming a semiconductor device comprising:
forming a first electrode on a first surface of a first substrate;
forming an opening from a second surface of the first substrate to the first surface,
wherein a portion of the first electrode is exposed through the opening;
forming a second electrode on a second substrate;
forming a dielectric layer on at least one of the first substrate and second substrate and
positioning the dielectric layer to prevent a short circuit between the first substrate and second substrate; and
positioning the second electrode in the opening and electrically connecting the first electrode to the second electrode.

Please add new claims 24-37 as follows:

--24. (new) A method for manufacturing a semiconductor device, comprising:
providing a first substrate comprising a semiconductor chip having a first surface and a second surface opposite the first surface;

forming a first electrode on the first surface of a semiconductor chip, the electrode including a first electrode surface in contact with the semiconductor chip;

removing a portion of the semiconductor chip from the second surface of the semiconductor chip to form an opening extending through the semiconductor chip and extending to the first electrode surface, the opening being defined by interior sidewalls of the semiconductor chip and an exposed portion of the first electrode;

providing a second substrate having a second electrode thereon, the second electrode extending a distance above a first surface of the second substrate; and

positioning the second electrode within the opening and in electrical contact with the first electrode.

25. (new) A method as in claim 24, wherein a portion of the second substrate is positioned within the opening.

26. (new) A method as in claim 24, wherein the second substrate comprises a semiconductor chip and a portion of the semiconductor chip is positioned within the opening

27. (new) A method as in claim 26, wherein the second electrode is formed on a first surface of the second substrate, further comprising:

forming a conducting lead extending from the second electrode on the first surface of the second substrate;

forming a dielectric layer on the second surface of the first substrate and on the interior sidewalls.

28. (new) A method as in claim 27, further comprising a conducting material positioned within the opening between the first electrode surface and the second electrode.

29. (new) A method as in claim 27, further comprising forming a metal layer on the first electrode surface through the opening, prior to the positioning the second electrode within the opening.

30. (new) A method as in claim 24, where the interior sidewalls are formed so that an angle at an intersection of an interior sidewall and the second surface is 90 degrees.

31. (new) A method as in claim 24, where the interior sidewalls are formed so that an angle at an intersection of an interior sidewall and the second surface is 54.74 degrees.

32. (new) A method as in claim 24, wherein the removing a portion of the semiconductor chip from the second surface of the semiconductor chip is carried out using an anisotropic etching technique.

33. (new) A method as in claim 24, wherein the first electrode includes a first layer comprising tungsten and a second layer comprising aluminum, wherein the first electrode surface is part of the first layer.

34. (new) A method for manufacturing a semiconductor device, comprising:
providing a first substrate comprising a semiconductor chip having a first surface and a second surface opposite the first surface;
forming a first electrode comprising platinum on the first surface of a semiconductor chip, the electrode including a first electrode surface in contact with the semiconductor chip;
placing the first substrate into a processing container having a processing electrode and a lamp therein, wherein the first substrate is spaced apart from the processing electrode and the lamp;
forming a patterned dielectric layer so that the second surface includes a masked portion and an exposed portion;
introducing an acid into the container;
irradiating the second surface with the lamp;
applying a voltage between the processing electrode and the first electrode; and
forming an opening that extends through the semiconductor chip through the exposed portion of the second surface.

35. (new) A method as in claim 34, further comprising:
 removing the first electrode comprising platinum from the first surface of the semiconductor chip;
 forming an aluminum electrode on the first surface of the semiconductor chip that covers the opening;
 removing the patterned dielectric layer from the second surface; and
 forming a thermal oxide on the second surface.

1 - 36. (new) A method as in claim 34, wherein the opening includes sidewalls, and an angle between the sidewalls and the second surface is 90 degrees.

10/14. 37. (new) A method as in claim 34, further comprising forming the patterned dielectric layer so that the exposed portion of the second surface includes a plurality of exposed regions and the masked portion includes a plurality of masked regions, and the plurality of exposed regions are separated from one another by the masked regions, and wherein a plurality of openings that extend through the semiconductor chip through the exposed regions are formed.--

Remarks

This amendment is in response to the Office Action dated November 29, 2002. Claims 4-5, 7-8 and 23 have been amended, claims 9-22 have been canceled without prejudice, and new claims 24-37 have been added. Claims 1-8 and 23-37 are currently pending. Reexamination and reconsideration are respectfully requested.

Claims 9-21 were canceled without prejudice as non-elected claims.

Claim 5 has been amended to correct a typographical error and claims 4 and 7-8 have been amended for clarity. Claims 4-5 and 7-8 were not amended in response to any rejection.